FIG. 1

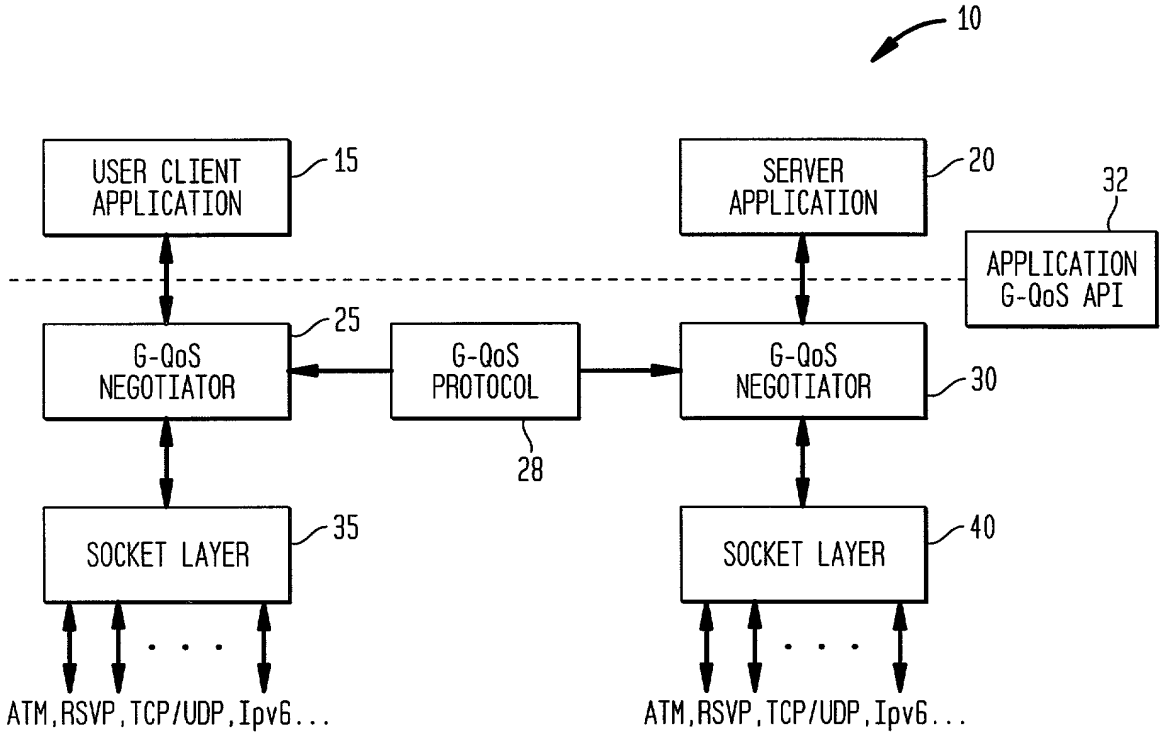

10
USER CLIENT APPLICATION
15
SERVER APPLICATION
20
32
APPLICATION G-QoS API
G-QoS NEGOTIATOR
25
G-QoS PROTOCOL
28
G-QoS NEGOTIATOR
30
SOCKET LAYER
35
SOCKET LAYER
40
ATM,RSVP,TCP/UDP,Ipv6...
ATM,RSVP,TCP/UDP,Ipv6...

FIG. 2

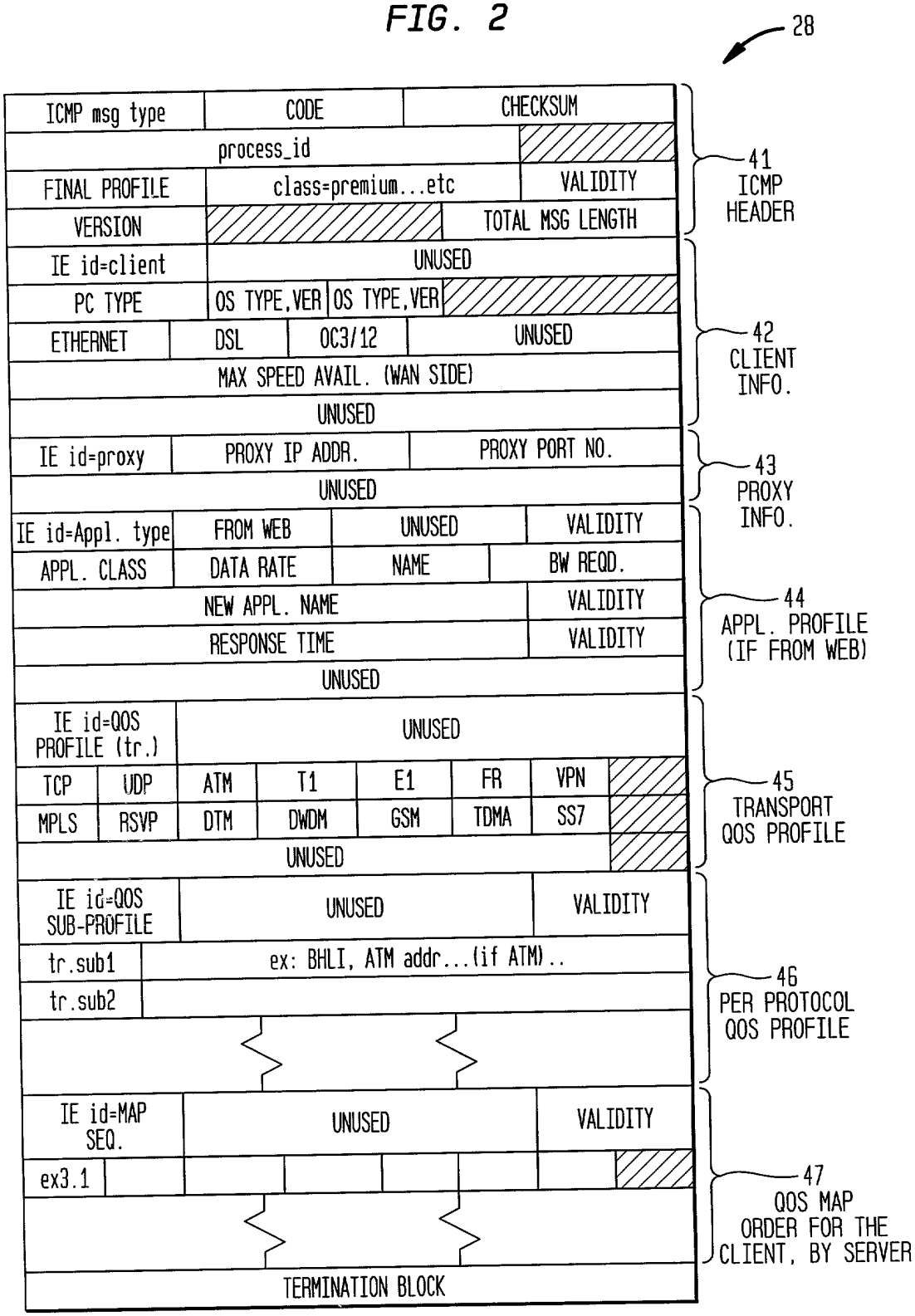

28
ICMP msg type
CODE
CHECKSUM
process_id
FINAL PROFILE
class=premium...etc
VALIDITY
VERSION
TOTAL MSG LENGTH
41 ICMP HEADER
IE id=client
UNUSED
PC TYPE
OS TYPE,VER
OS TYPE,VER
ETHERNET
DSL
OC3/12
UNUSED
MAX SPEED AVAIL. (WAN SIDE)
UNUSED
42 CLIENT INFO.
IE id=proxy
PROXY IP ADDR.
PROXY PORT NO.
UNUSED
43 PROXY INFO.
IE id=Appl. type
FROM WEB
UNUSED
VALIDITY
APPL. CLASS
DATA RATE
NAME
BW REQD.
NEW APPL. NAME
VALIDITY
RESPONSE TIME
VALIDITY
UNUSED
44 APPL. PROFILE (IF FROM WEB)
IE id=QOS PROFILE (tr.)
UNUSED
TCP
UDP
ATM
T1
E1
FR
VPN
MPLS
RSVP
DTM
DWDM
GSM
TDMA
SS7
UNUSED
45 TRANSPORT QOS PROFILE
IE id=QOS SUB-PROFILE
UNUSED
VALIDITY
tr.sub1
ex: BHLI, ATM addr...(if ATM)..
tr.sub2
46 PER PROTOCOL QOS PROFILE
IE id=MAP SEQ.
UNUSED
VALIDITY
ex3.1
47 QOS MAP ORDER FOR THE CLIENT, BY SERVER
TERMINATION BLOCK

FIG. 3

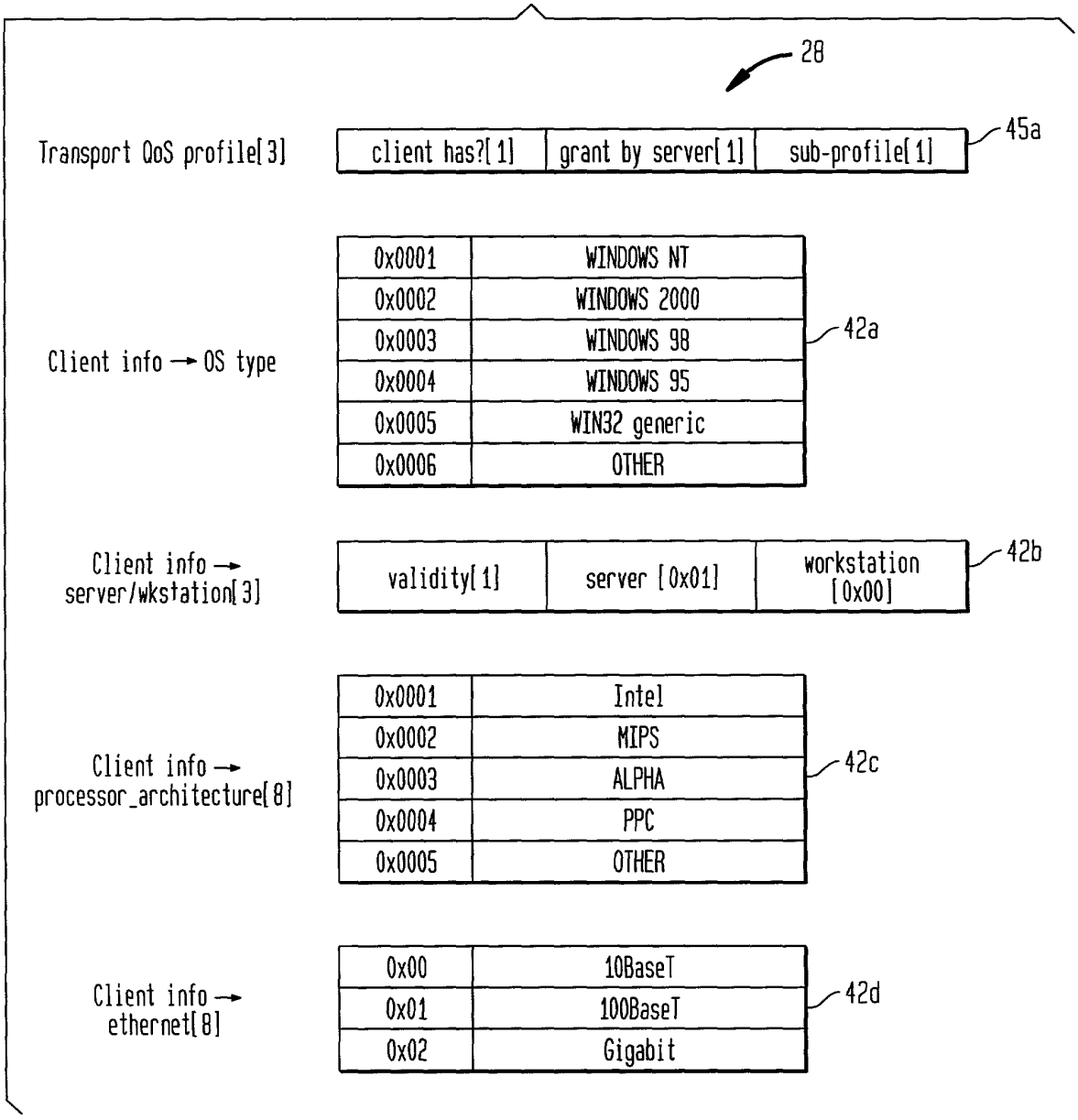

28
Transport QoS profile[3]
client has?[1]
grant by server[1]
sub-profile[1]
45a
Client info → OS type
0x0001 WINDOWS NT
0x0002 WINDOWS 2000
0x0003 WINDOWS 98
0x0004 WINDOWS 95
0x0005 WIN32 generic
0x0006 OTHER
42a
Client info → server/wkstation[3]
validity[1]
server [0x01]
workstation [0x00]
42b
Client info → processor_architecture[8]
0x0001 Intel
0x0002 MIPS
0x0003 ALPHA
0x0004 PPC
0x0005 OTHER
42c
Client info → ethernet[8]
0x00 10BaseT
0x01 100BaseT
0x02 Gigabit
42d

FIG. 4

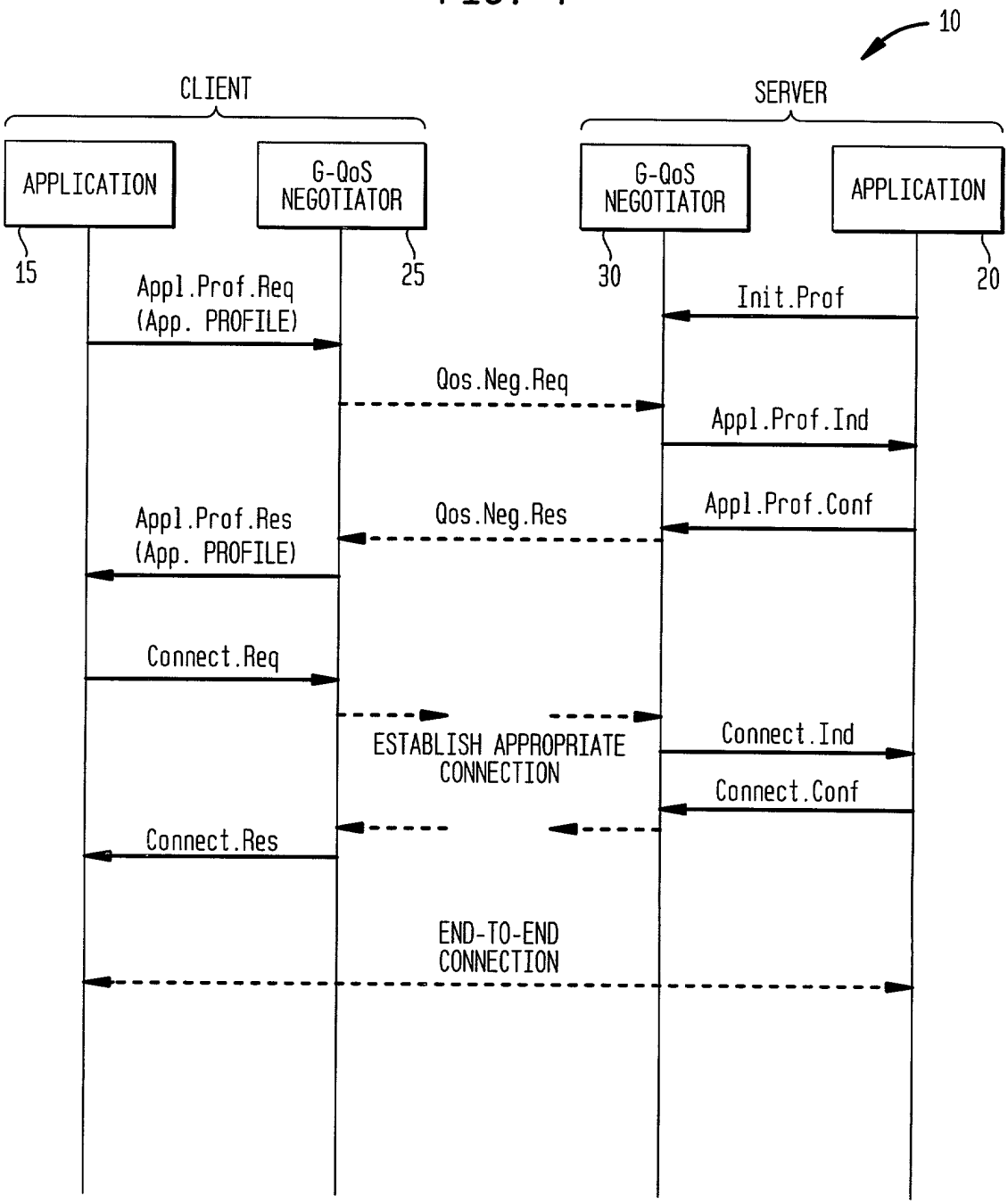

10
CLIENT
SERVER
APPLICATION
G-QoS NEGOTIATOR
G-QoS NEGOTIATOR
APPLICATION
15
25
30
20
Appl.Prof.Req (App. PROFILE)
Init.Prof
Qos.Neg.Req
Appl.Prof.Ind
Appl.Prof.Res (App. PROFILE)
Qos.Neg.Res
Appl.Prof.Conf
Connect.Req
ESTABLISH APPROPRIATE CONNECTION
Connect.Ind
Connect.Conf
Connect.Res
END-TO-END CONNECTION

FIG. 5

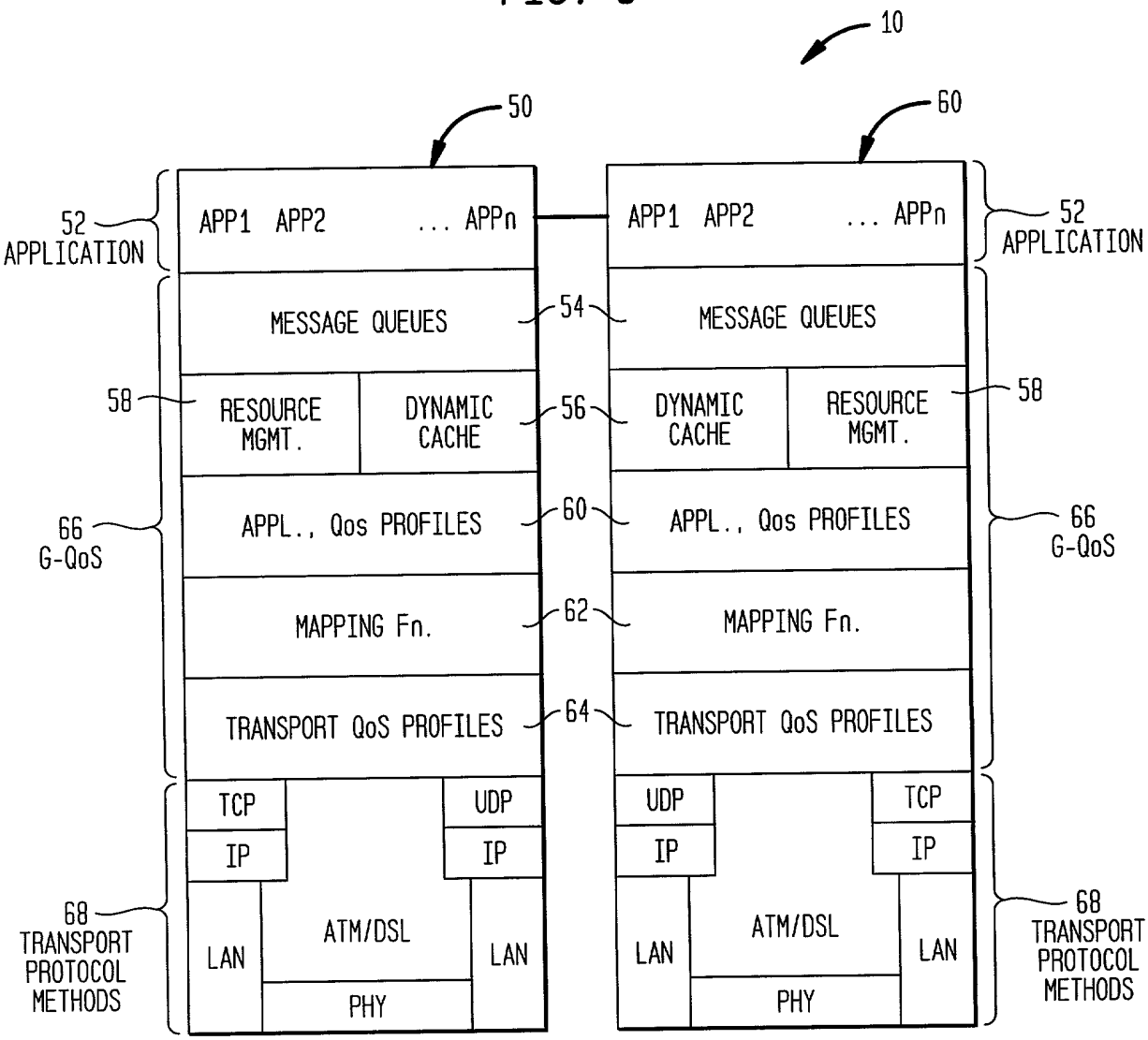

10
50
60
52
APPLICATION
APP1 APP2 ... APPn
APP1 APP2 ... APPn
52
APPLICATION
MESSAGE QUEUES
54
MESSAGE QUEUES
58
RESOURCE MGMT.
DYNAMIC CACHE
56
DYNAMIC CACHE
RESOURCE MGMT.
58
66
G-QoS
APPL., Qos PROFILES
60
APPL., Qos PROFILES
66
G-QoS
MAPPING Fn.
62
MAPPING Fn.
TRANSPORT QoS PROFILES
64
TRANSPORT QoS PROFILES
TCP
IP
UDP
IP
UDP
IP
TCP
IP
68
TRANSPORT PROTOCOL METHODS
LAN
ATM/DSL
LAN
PHY
LAN
ATM/DSL
LAN
PHY
68
TRANSPORT PROTOCOL METHODS

FIG. 6A

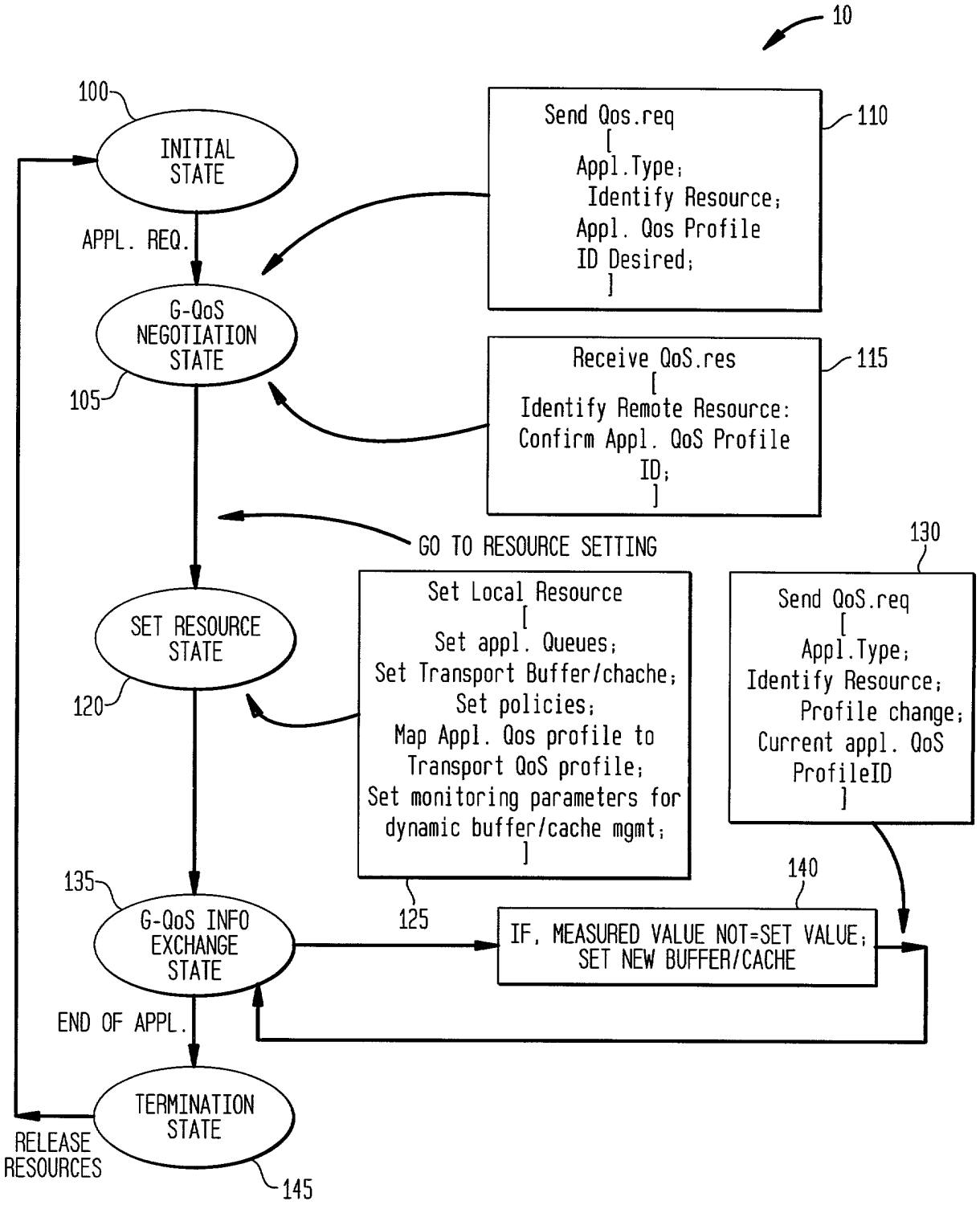
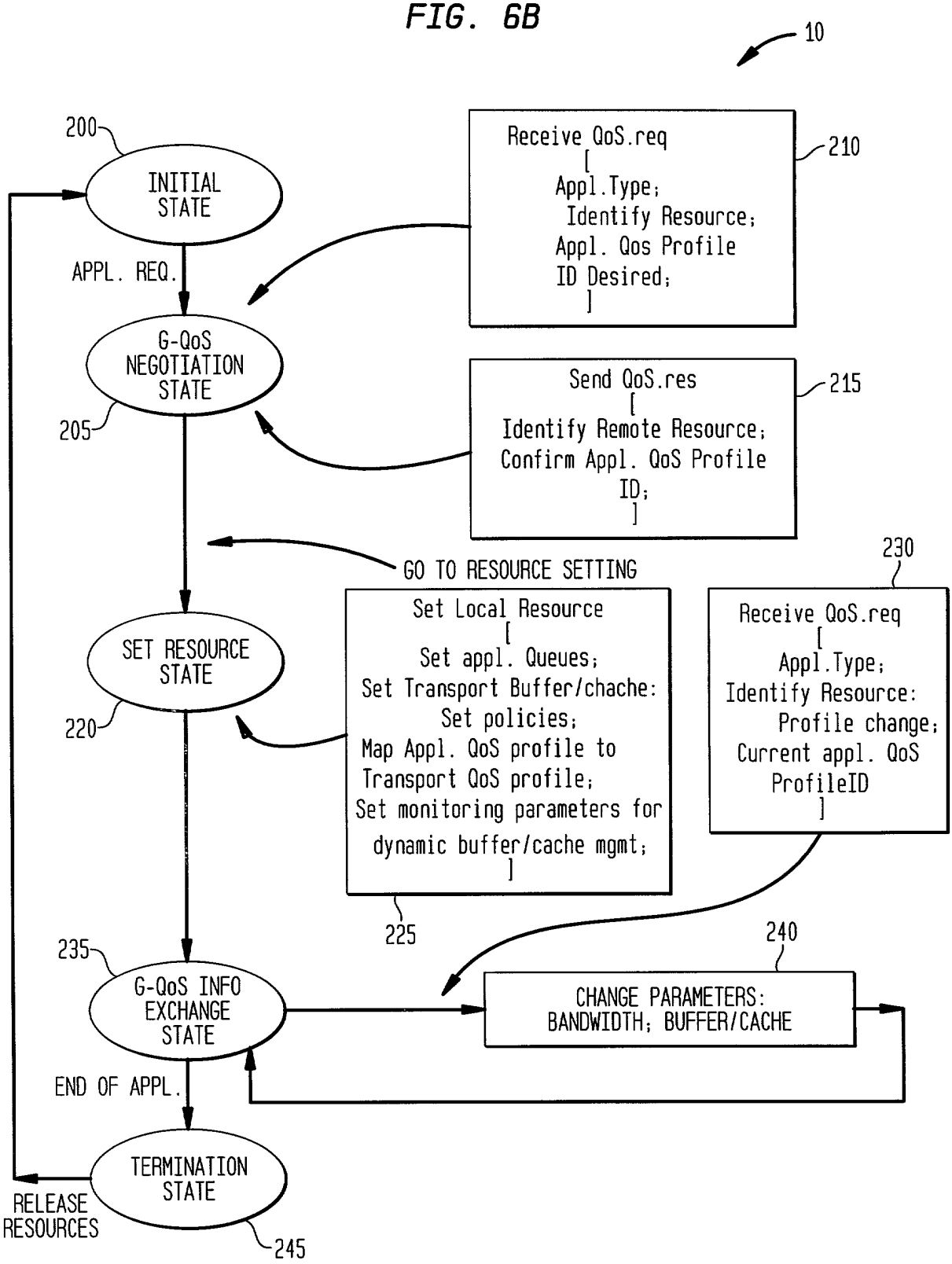

10
100
INITIAL STATE
APPL. REQ.
G-QoS NEGOTIATION STATE
105
SET RESOURCE STATE
120
135
G-QoS INFO EXCHANGE STATE
END OF APPL.
TERMINATION STATE
RELEASE RESOURCES
145
Send Qos.req [Appl.Type; Identify Resource; Appl. Qos Profile ID Desired;]
110
Receive QoS.res [Identify Remote Resource: Confirm Appl. QoS Profile ID;]
115
GO TO RESOURCE SETTING
Set Local Resource [Set appl. Queues; Set Transport Buffer/chache; Set policies; Map Appl. Qos profile to Transport QoS profile; Set monitoring parameters for dynamic buffer/cache mgmt;]
125
130
Send QoS.req [Appl.Type; Identify Resource; Profile change; Current appl. QoS ProfileID]
140
IF, MEASURED VALUE NOT=SET VALUE; SET NEW BUFFER/CACHE

FIG. 6B


10
200
INITIAL STATE
APPL. REQ.
G-QoS NEGOTIATION STATE
205
SET RESOURCE STATE
220
G-QoS INFO EXCHANGE STATE
235
END OF APPL.
TERMINATION STATE
245
RELEASE RESOURCES
Receive QoS.req [Appl.Type; Identify Resource; Appl. Qos Profile ID Desired;]
210
Send QoS.res [Identify Remote Resource; Confirm Appl. QoS Profile ID;]
215
GO TO RESOURCE SETTING
Set Local Resource [Set appl. Queues; Set Transport Buffer/chache: Set policies; Map Appl. QoS profile to Transport QoS profile; Set monitoring parameters for dynamic buffer/cache mgmt;]
225
230
Receive QoS.req [Appl.Type; Identify Resource: Profile change; Current appl. QoS ProfileID]
240
CHANGE PARAMETERS: BANDWIDTH; BUFFER/CACHE